EGG STORE

How often do you check eggs coming in to your hatchery for hairline cracks?

Identifying all the eggs that have cracked shells on arrival at the hatchery is not easy, but removing and discarding them will increase your hatchability and improve chick quality.

As the use of automated egg handling on the farms increases, hairline cracks, in particular, are becoming much more common.

'Hairline' cracks can be difficult to spot. They occur when the force of an impact is just sufficient to crack the crystalline shell, but there is no obvious surface damage or disruption to the underlying shell membranes. Hairline cracks may only become obvious after a few days in the egg store when moisture from the egg contents has had time to penetrate into the crack and produce a faint gray line at the shell surface (**Figure 1**).

A good way to detect hairline cracks is to candle the eggs because the moisture that has entered the crack becomes illuminated brightly (**Figure 2**).

Eggs with hairline cracks can cause just as many problems as eggs with more severe shell damage.

Research has shown that the hatchability of eggs with hairline cracks can be reduced by almost 25%. In addition, there is an increased level of contamination in eggs with hairline cracks which seems to be carried over to the chicks. The mortality of chicks hatched from cracked eggs to two weeks of age was almost four times that in the control group.

When the effect of hairline crack length on hatchability, egg weight loss, embryo losses, chick quality and contamination rates have been studied it is clear that substantial detrimental effects still occur in eggs with only short hairline cracks, such as that in **Figure 3**.

So, the message is clear. Cracked eggs and those with hairline cracks are bad news for the hatchery. Not only do they reduce hatchability through increased water loss from the egg, but they are more likely to become contaminated. This contamination is carried over onto the farm by the chicks.

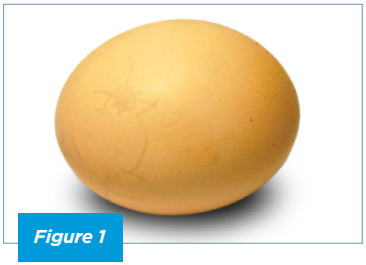

Figure 1

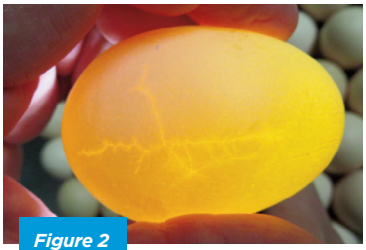

Figure 2

Figure 3